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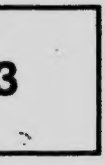

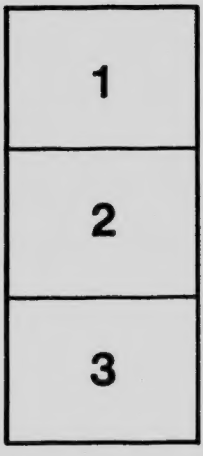

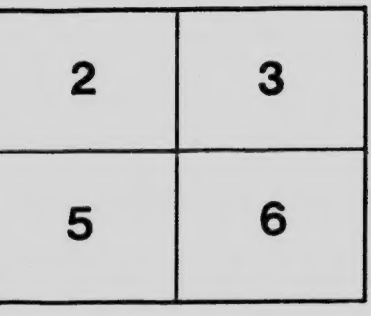

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DEPARTMENT OF AGRICULTURE
(LIVE STOCK BRANCH)

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SOIL-CONTAMINATION.

By H. E. Upton, District Poultry Instructor.

MANY difficult problems are now presenting themselves on the majority of poultry plants of long standing that can chiefly be attributed to dirty or contaminated soil. As is well known, no fæcal matter of any animal contains such a high percentage of nitrogen as does that passed by the domestic fowl. History oftentimes repeats itself, and we find in British Columbia, as in all other sections where poultry has been reared on the same ground for any number of years, that the ordinary poultry ills are becoming more troublesome.

We do not intend giving a treatise on diseases in this leaflet, but we must point out at this time that this one question of poultry-manure lying on small acreage for years and years is gradually beginning to have its effect on the poultry plants on the western part of this continent in the manner that it has on the eastern part of the continent in years gone by. In the olden days when poultry was kept as a side-line, with little attention being paid to the commercial end of the business, poultry ills and profits were seldom considered. Owing to the great growth of the poultry industry during the last fifteen years, it has become necessary for the poultryman to understand in detail many things that he has never given attention to in years gone by. It is well known amongst poultrymen that this fæcal matter gathering for any length of time on soil where breeding stock continue to run, or where young stock are reared year after year, that the strength of the stock is gradually weakened and troubles from disease increase yearly.

We feel that we would not be doing our duty if we did not try to outline some way to prevent the trouble from increasing. We advise a system of rotation on any place where over 200 head of poultry are kept. We do not need to give much attention to flocks numbering under 200 birds, because of the fact that the owners of the smaller flocks usually are able to, and do, have room to rear their chicks on different ground each year. One will notice, however, in the larger flocks that the breeding stock and young stock are given much the same range year after year. To overcome this difficulty we have drawn a plan of rotation for either 10 or 15 acres for the operation of a commercial egg-farm. If one is in the business more extensively so that they have to keep a great number of breeding fowls, they can easily work out a system much along the same lines as the one outlined.

We will divide nine acres of the ten in three different sections, and number them 1, 2, and 3. In section 1, for example, in 1920 we will rear our young stock. In section 2 we will have a crop of some kind of grain, with clover coming on, so that the grain will be harvested and the straw saved for litter, and at the same time a good green mat will be coming on for our stock to thrive upon in 1921. In section 3 we will have some root-crop growing, so that the soil will be in good workable condition for the grain and clover crop to provide a good green mat for the young chicks to thrive upon in 1922.

In 1921 Plot No. 1 will be sown down to roots or some other heavy feeder of poultry-manure, so that the ground will become sweetened while grain and clover are growing in Plot No. 3 and chicks are on Plot No. 2.

In 1922 chicks will be on Plot No. 3 while the grain and clover will grow on Plot No. 1 and roots are cleaning up Plot No. 2.

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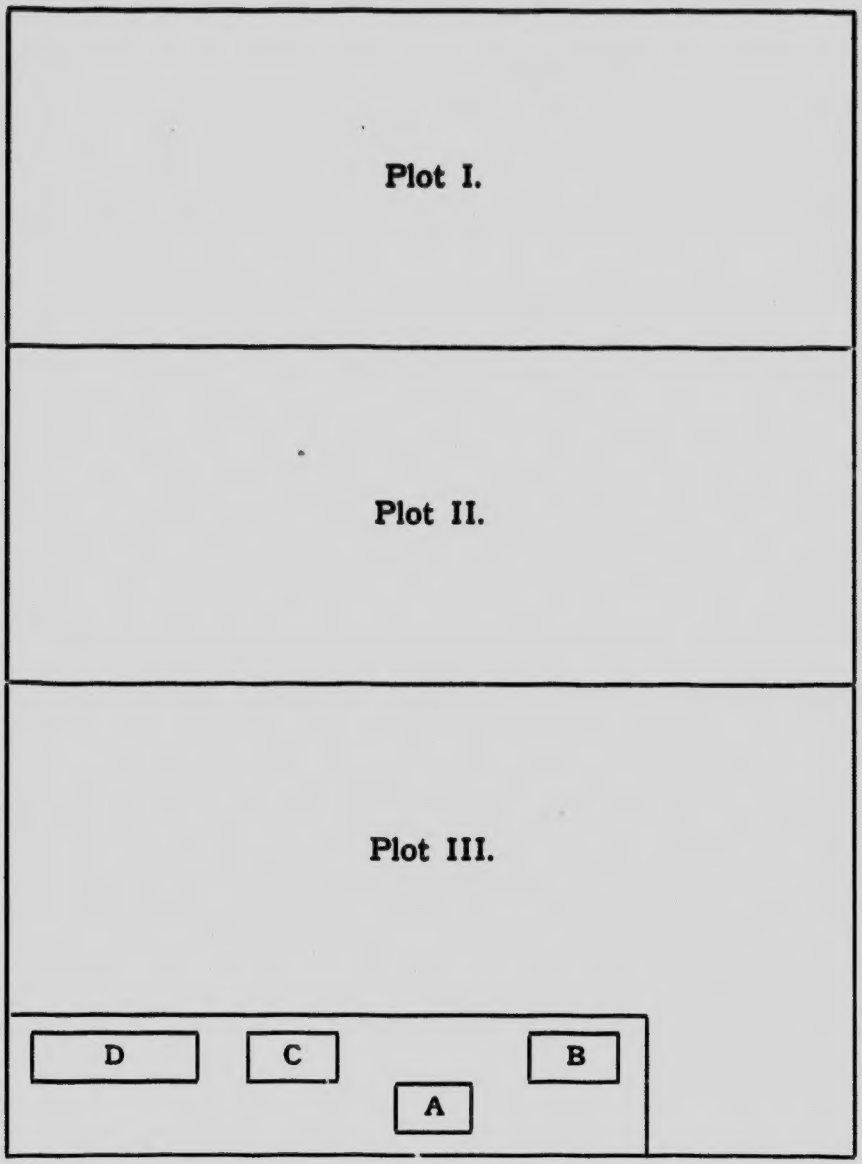
DIAGRAM.



TEN-ACRE BLOCK DIVIDED TO ALLOW SYSTEM OF ROTATION TO PREVENT SOIL-CONTAMINATION.

A—Dwelling.
B—Incubator-house.
C—Feed-house and stable.
D—Continuous laying-houses.

PLAN OF ROTATION.

Plot I.—	Plot II.—	Plot III.—
1920—Chickens.	1920—Clover and grain.	1920—Roots.
1921—Roots.	1921—Chickens.	1921—Clover and grain.
1922—Clover and grain.	1922—Roots.	1922—Chickens.

It is well known that it is practically impossible for one to make a commercial success of the poultry business on less than 10 acres of ground. From 20 to 30 acres of ground should be provided by the poultryman who engages in the sale of hatching-eggs and baby chicks to any great extent.

The soil about a colony house that is to be used for rearing stock could be well treated with a small quantity of burnt limestone just before the fall rains commence. Parasitical troubles can be conquered to a certain extent by spraying the soil with a solution of sulphuric acid occasionally.

Where the continuous house is used for the laying stock and a north-and-south run system is used, the soil within the immediate 30 feet of the back or front of the house should be treated with sulphuric acid annually. Yards should also be swept occasionally when the runs are dry. A good green crop should be grown in the alternate runs when possible. (We do not advise oats, but rather rape or kale.)

The diseases giving most trouble at the present time in this Province are practically all attributable to soil-contamination.

Coccidiosis is a disease which seems to gain hold after the chicks are from ten days to three weeks of age, causing a great mortality from no apparent reason. An acid diet has assisted many poultry-keepers to check this trouble in their young flocks, but soil-contamination is chiefly to blame for the spread of same.

Aspergillosis is becoming more common again than it has been for some few years. Sour grain collecting on the ground or undeveloped grain lying in the soil for any length of time will cause this trouble and spread same amongst the stock. As is seen, soil-contamination is one of the main reasons for the development and spread of this disease.

Tuberculosis and many of the other prevailing diseases are spread through contaminated soil, and for protection to the investments the poultrymen have made more detailed attention to the soil is demanded if the best results are to be obtained.

A full list of publications on poultry and other matters may be obtained by writing to the Department of Agriculture, Victoria, B.C.

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